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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,199	10/01/2003	Daniel Joseph Brunelle	125882 (1306-20)	7117

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EXAMINER

BOYKIN, TERRESSA M

ART UNIT	PAPER NUMBER
1711	

DATE MAILED: 05/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/676,199

Applicant(s)

BRUNELLE ET AL.

Examiner

Terressa M. Boykin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1-18-05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

35 USC 112, Second Paragraph

Claims 1- 43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1 etc. the recited " combining...." is unclear terminology as to what meets and bounds applicants are intending. The recited "combining..." is functional language and is indefinite because it is not supported by further recitations in the claim(s) of sufficient structure to accomplish the function.

Note that a process should at least recite clear,, active steps and any process parameters necessitated by the specification so that the claim will "clearly set out and circumscribe a particular area with a reasonable degree of precision and particularity, In re Moore, 169 USPQ 236, and make it clear what subject matter the claim encompasses, as well as *make clear* the subject matter from others would be precluded. In re Hammack 166 USPQ 204.

With regard to claim 32, the recited phrase "combing 1,3 dihydroxybenzene, a first mixture of isophthalic acid and terephthalic acid and diphenyl carbonate to provide a second mixture" is not understood as to whether this resulting "mixture" differs from that of the previous claims. Clarification is required in order to properly search and examine the claims containing such language.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

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Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1- 43 are rejected under 35 U.S.C. 102(b) as being anticipated by USP 4725647 see abstract, cols. 6 line 30 through col. 7 line 16, and examples.

USP 4725647, while directed to the formation of a polyester, discloses therein in col. 6 line 66 through 18, a polyester prepared from a bisphenol, aromatic dicarboxylic acid and optionally a diaryl carbonate under the same/overlapping temperature limitations while using inert atmosphere such as argon. Note col. 7 lines 9-16 specifically.

In view of the 112 rejection above regarding the recited “combining” it is further noted that applicants do not state in the claims the desired oligomeric moiety nor the method of polymerization, i.e. transesterification etc. Thus, the method steps of “combining” and “heating” may be interpreted more broadly while at the same time considering applicants’ specification.

Polyarylates are polyesters derived from a dihydric phenol, particularly 2,2-bis(4-hydroxyphenyl) propane, also identified as Bisphenol-A, and an aromatic dicarboxylic acid, particularly mixtures of terephthalic and isophthalic acids. These polyarylates are high temperature, high performance thermoplastic polymers with a good combination of thermal and mechanical properties. They also have good processability which allows them to be molded into a variety of articles.

Furthermore, the present process can be carried out at atmospheric pressure and

therefore avoids the use of the costly equipment which is needed by the prior art processes which carry out the diphenyl ester process under vacuum.

The aromatic diacid which can be used herein includes terephthalic acid, isophthalic acid, ortho-phthalic acid, any of the naphthalene dicarboxylic acids and mixtures thereof, as well as alkyl substituted homologs of these carboxylic acids, wherein the alkyl group contains from 1 to about 4 carbon atoms, and acids containing other inert substituents such as halides, alkyl or aryl ethers, and the like. Preferably, mixture of isophthalic and terephthalic acids are used. The isophthalic acid to terephthalic acid ratio in the mixture is about 20:80 to about 100:0 while the most preferred acid ratio is about 25:75 to about 75:25. Also, from about 0.5 to about 20 percent of aliphatic diacids containing from 2 to about 10 carbon atoms, such as adipic acid, sebacic acid, and the like may be additionally used in the polymerization reaction.

Additionally, a carbonate such as diphenyl carbonate may be added to the reaction mixture in order to produce a poly(ester carbonate).

In another embodiment of this invention, the diester derivative of the aromatic diacid is prepared in the reaction zone by reacting the diacid with a phenol under the conditions described, supra. The dihydric phenol, and optionally a carbonate such as diphenyl carbonate, the processing aid, and optionally, catalyst is then added to the reaction zone and the polymerization reaction carried out to produce the polyester or poly(ester carbonate).

A catalyst may be used to accelerate the transesterification reaction. Examples of the catalyst are elemental metals such as sodium, potassium, lithium, calcium,

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magnesium, barium, tin, strontium, zinc, iron, aluminum, cobalt, lead, nickel, titanium, manganese, or antimony, and compounds of these metals such as their oxides, hydrides, hydroxides, halides, inorganic acid salts, organic acid salts, complex salts, double salts, alcoholates, or phenolates. Preferred catalysts include alkaline earth metal alkoxides and phenoxides. Other preferred catalysts include titanium compounds such as titanium tetrabutoxide, titanium oxalate, or titanium oxide, tin compounds such as dibutyltin oxide, antimony compounds, such as antimony trioxide.

Correspondence

Please note that the cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site (www.uspto.gov), from the Office of Public Records and from commercial sources. Applicants may be referred to the Electronic Business Center (EBC) at <http://www.uspto.gov/ebc/index.html> or 1-866-217-9197.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Terressa Boykin whose telephone number is 571 272-1069. The examiner can normally be reached on Monday through Friday from 6:30am to 3:00pm.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. The general information number for listings of personnel is (571-272-1700).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

tmb

A handwritten signature in black ink, reading "Terressa Boykin". The signature is written in a cursive, flowing style.

Examiner Terressa Boykin
Primary Examiner
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